

Claims

What is claimed is:

1. An exercise apparatus which enables simulating a variety of sports activities for the purpose of training, the apparatus comprising:
 - a front rigid support structure;
 - a rear rigid support structure lower than the front support structure;
 - 5 a monorail having a first end attached to the front support structure and a second end attached to the rear support structure so that the monorail is supported at an inclined angle to the horizontal;
 - a roller carriage mounted on the monorail so that the roller carriage is capable of rolling along the monorail between the rigid support structures;
 - 10 a body support means removably attached to the roller carriage and capable of receiving a body of a user mounted thereon;
 - a flexible pull means attached to the front support structure, so that a user mounted on the body support means is capable of using the pull means to simulate sports movements and move the roller carriage from the rear support structure up the inclined monorail
 - 15 toward the front support structure;
 - a tension means removably attachable between the roller carriage and one of the support structures for altering the ability to move the roller carriage along the inclined monorail.

2. The apparatus of claim 1 wherein the rear support structure is of a minimum height required to maintain a user mounted on the body support means in a reclined position so that the user's feet do not touch a horizontal surface supporting the apparatus.

3 3. The apparatus of claim 2 wherein the rear support structure is 14" high.

4. The apparatus of claim 1 wherein the tension means comprises one of a number of interchangeable rubber stretch cords of different tension strengths to vary the degree of tension by interchanging the cords.

5. The apparatus of claim 1 wherein the tension means is attached between the roller carriage and the rear support structure and the tension means is capable of resisting the movement of the roller carriage up the inclined monorail.

6. The apparatus of claim 1 wherein the tension means is attached between the roller carriage and the front support structure and the tension means is capable of assisting the movement of the roller carriage up the inclined monorail.

7. The apparatus of claim 1 further comprising an elongated rigid bar mounted on the front support structure, the bar having a guide means on each side of the front support structure for maintaining the pull means in a fixed position wrapped around the bar.

8. The apparatus of claim 7 further comprising a pulley means attachable to the bar on each side of the front support structure and a cable means inserted through both of the pulley means and through a third pulley attached to the roller carriage, the cable means having a first end a second end free to grasp by a user, the ends each having a means to receive at least one gripping means attached thereto, the cable means capable of being used while the user is mounted on the roller carriage or with the user positioned adjacent to the apparatus for various types of exercises.

9. The apparatus of claim 8 further comprising a tension loop means attachable between the third pulley and the roller carriage, the tension means forming a dynamic dampening loop.

10. The apparatus of claim 8 further comprising a wall-mountable bracket means capable of receiving and supporting the apparatus mounted vertically on a wall so that the pulley cable system may be used to raise the roller carriage and further comprising a weight bracket and weight bar and a changeable weight means attached to the roller carriage, thereby creating a vertical pulley exercise device.

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11. The apparatus of claim 8 wherein the front support structure further comprises a base bar extending laterally to each side of the front support structure, the base bar having a pulley attaching means attachable thereto adjacent to each end for each receiving the pulley means attachable thereto so that exercises can be done pulling at a different angle allowing various other kinds of exercises using different muscle groups.

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12. The apparatus of claim 7 wherein the bar further comprises a gripping means at each end, each of the gripping means round in cross section for facilitating gripping by a hand of a user to allow the user to perform exercises while gripping the gripping means.

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13. The apparatus of claim 1 wherein the end of the flexible pull means is capable of receiving interchangeably a gripping means selected from the group of gripping means consisting of:

an elongated handle round in cross section attached perpendicularly to the cable

means;

a hand paddle for receiving a hand of the user flat against the hand paddle;

an ankle strap securable around an ankle of a user;

a webbing loop;

a canoe paddle shaft;

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a kayak paddle shaft;

a barbell accessory.

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14. The apparatus of claim 1 further comprising an adjustable bar support attachable to the front support structure and a right bar and a left bar adjustably attachable to the adjustable bar support in any of a variety of different settings or angles relative to the monorail, the right and left bars each having the flexible pull means attached thereto to allow the user to vary exercise patterns, simulating different strokes and exercising different muscle groups.

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15. The apparatus of claim 1 further comprising a pivotable means in both the front and rear support structures to enable the apparatus to fold up into a flat configuration for ease of transporting and storing.

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16. The apparatus of claim 15 further comprising a wheel rotatably attached to one of the support structures, the wheel capable of contacting the ground with the machine in the flat configuration to allow rolling the machine for ease of movement.

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17. The apparatus of claim 1 further comprising a weight bracket and weight bar attach to an underside of the roller carriage, the weight bar capable of removably receiving a weight means to increase resistance.

18. The apparatus of claim 1 wherein the body support means comprises an
elongated padded bench contoured to cradle the body of the user lying on the bench and
sufficiently wide to accommodate a wide range of body sizes while tapering in the front to
provide greater freedom of movement of the arms and maximum stability for use in
5 simulated swimming movements.

19. The apparatus of claim 18 further comprising a front head support and a rear
foot support capable of being removably attached to the padded bench and extending
3 toward the front and rear of the apparatus, respectively, in the plane of the padded bench
for performing various types of exercises.

20. The apparatus of claim 1 further comprising a foot platform attachable to the
rear support structure and extending upwardly perpendicularly to the monorail, so the user
may push off the platform with the feet while the user is mounted on the body support
4 means.

21. The apparatus of claim 1 wherein the body support means comprises a seat
2 carriage having a seat, a front thigh pad, and foot pegs for simulated skiing movements.

22. The apparatus of claim 1 further comprising a telescoping tube on the front
support structure to allow adjustability of the height of the front support structure and

therefore adjustability of the angle of the inclined monorail attached between the support structures, the telescoping tube bearing a series of numbers to indicate each height setting
5 for accurate adjustment of the incline.

23. The apparatus of claim 22 further comprising a quick release screw mechanism on the front support structure for engaging the telescoping tube and a safety locking pin formed of rigid metal having a straight insertion portion insertable through an opening in the front support structure and through a mating opening in the telescoping tube, and the safety locking pin having an L-shaped arm extending from the straight insertion portion, which L-shaped arm drops down onto the quick release screw mechanism and is secured by the tightening of the quick release mechanism.

24. The apparatus of claim 1 further comprising a rock climber attachment mountable on the front support structure to serve as a platform that accepts a variety of standard rock climbing wall grips and hand holds to use the apparatus to simulate rock
4 climbing movements.

25. The apparatus of claim 1 wherein the monorail is provided with interior channels to receive rollers from the roller carriage therein so that the roller carriage is capable of
3 rolling along the length of the monorail with the rollers in the channels.

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26. The apparatus of claim 1 wherein all of the components of the apparatus have a
rust-proof exterior surface to allow the apparatus to be placed in a high moisture
environment.